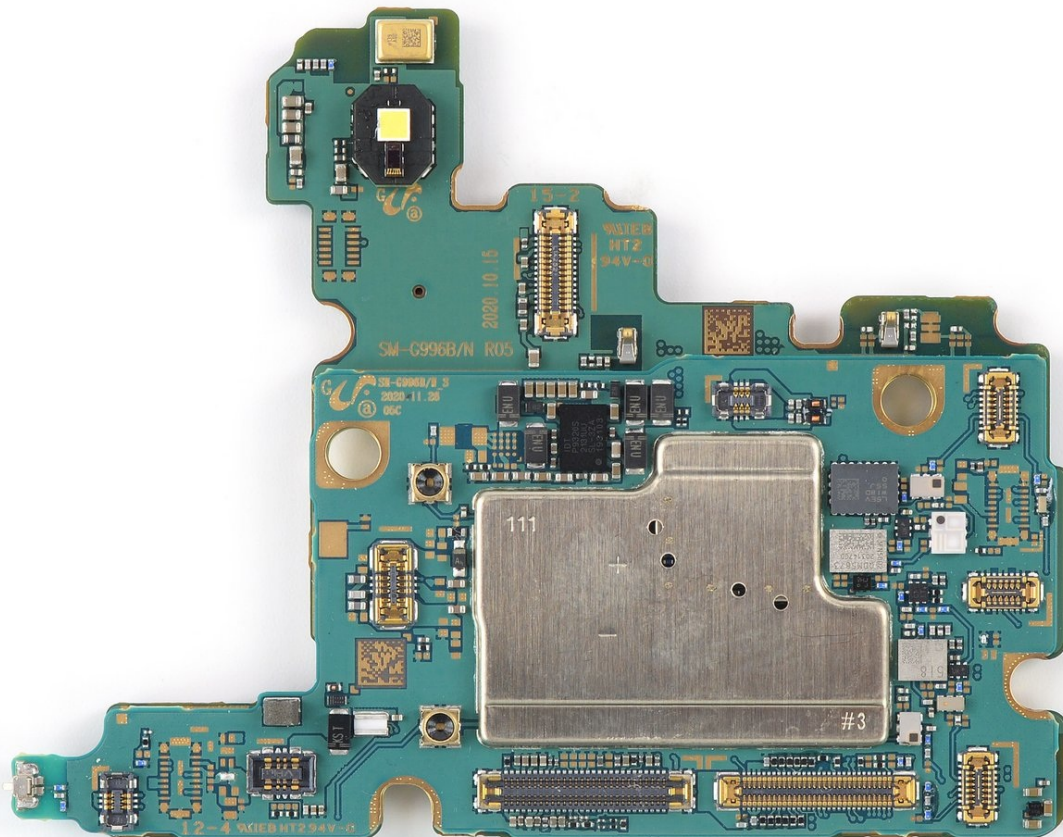




Samsung Galaxy S21 Plus Motherboard Replacement

Use this guide to replace the motherboard on...

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INTRODUCTION

Use this guide to replace the motherboard on your Samsung Galaxy S21 Plus.

This guide was performed on the **SM-G996B/DS** (international) model. Other models have an additional antenna cable sitting in the edge of the midframe.

If you do not replace the adhesive seals when reassembling, your device will function normally, but will most likely lose its water protection.

You'll need replacement adhesive to reattach components when reassembling the device.

TOOLS:

[iOpener](#) (1)
[Suction Handle](#) (1)
[iFixit Opening Picks \(Set of 6\)](#) (1)
[Heat Gun](#) (1)
[Isopropyl Alcohol \(90% or Greater\)](#) (1)
[Microfiber Cleaning Cloths](#) (1)
[ESD Safe Blunt Nose Tweezers](#) (1)
[Spudger](#) (1)
[Phillips #00 Screwdriver](#) (1)

PARTS:

[Tesa 61395 Tape](#) (1)
[iFixit Adhesive Remover](#) (1)

Step 1 — Heat the back cover



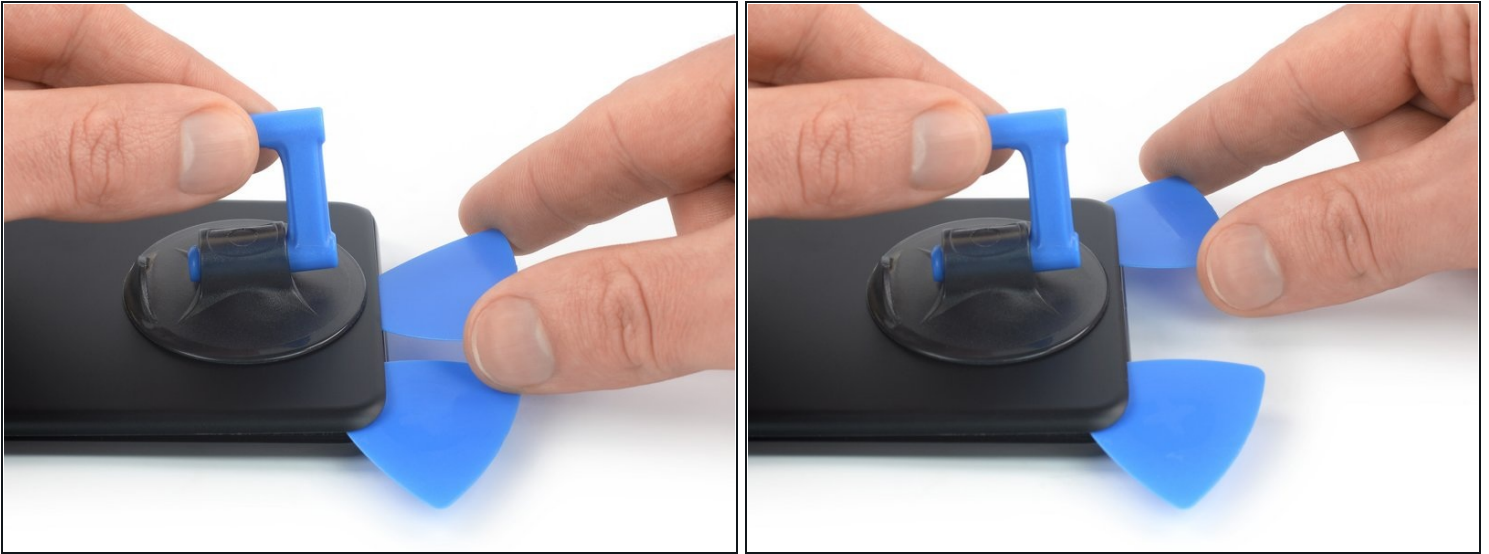
- [Prepare an iOpener](#) and apply it to the back cover for at least three minutes to loosen the adhesive underneath.
- ⓘ A hair dryer, heat gun, or hot plate may also be used, but be careful not to overheat the phone—the display and internal battery are both susceptible to heat damage.

Step 2 — Insert an opening pick



- Secure a suction handle to the bottom edge of the back cover, as close to the edge as possible.
 - ① If the back cover is cracked, the suction handle may not stick. Try [lifting it with strong tape](#), or superglue the suction handle in place and allow it to cure so you can proceed.
- Lift the back cover with the suction handle to create a small gap between the back cover and the frame.
 - ① If you have trouble creating a gap, apply more heat to further soften the adhesive. Follow the [iOpener](#) instructions to avoid overheating.
- Insert an opening pick into the gap you created.
- Slide the opening pick to the bottom left corner to slice the adhesive.
- Leave the opening pick in place to prevent the adhesive from resealing.

Step 3 — Slice the adhesive



- Insert a second opening pick at the bottom edge of your phone.
- Slide the opening pick to the bottom right corner to slice the adhesive.
- Leave the opening picks in place to prevent the adhesive from resealing.

Step 4 — Slice the adhesive



❗ If the adhesive becomes hard to cut, it has most likely cooled down. [Use your iOpener](#) for two to three minutes to reheat it.

- Insert a third opening pick at the bottom right corner of your phone.
- Slide the opening pick along the right edge of your phone to slice the adhesive.
- Leave the opening pick in the top right corner to prevent the adhesive from resealing.

Step 5



⚠ When you slice near the camera assembly, insert only the tip of the opening pick (~4-5 mm) to avoid damaging or smearing the camera.

- Insert a fourth opening pick underneath the top right corner of your phone.
- Slide the opening pick along the top edge to slice the adhesive.
- Leave the opening pick in the top left corner to prevent the adhesive from resealing.

Step 6



- Insert a fifth opening pick underneath the bottom left corner.
- Slide the opening pick along the left edge of the back cover to slice the remaining adhesive.

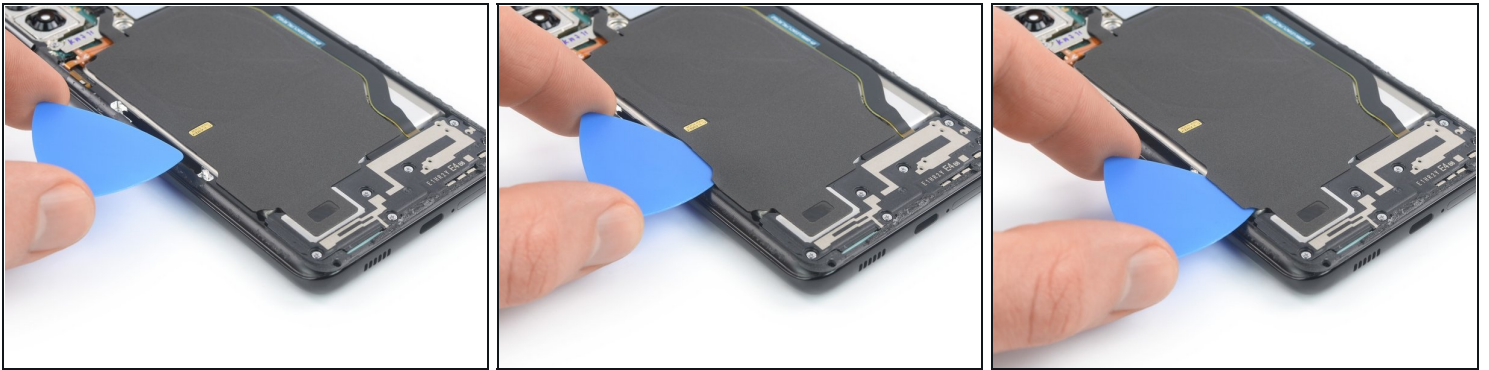
⚠ When you slice near the power button, insert only the tip of the opening pick (~3-4 mm) to avoid damaging the power and volume button flex cable.

Step 7 — Remove the back cover



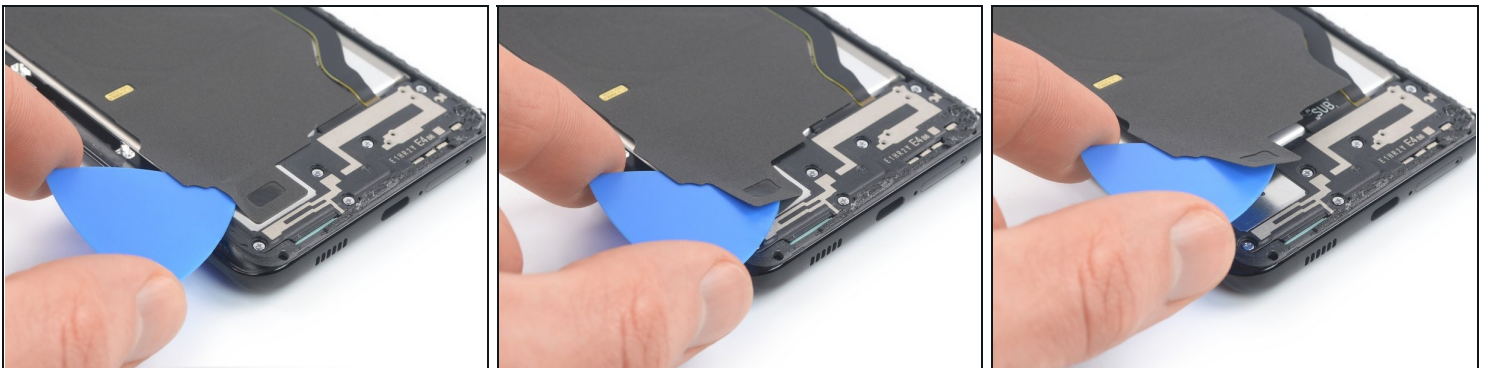
- Remove the back cover.
- ☑ During reassembly:
 - This is a good point to power on your phone and test all functions before sealing it up. Be sure to power your phone back down completely before you continue working.
 - Remove any adhesive chunks with a pair of [tweezers](#) or your fingers. Use some high concentration (over 90%) isopropyl alcohol to wipe away any adhesive residue.
 - If you're using Samsung custom-cut adhesives, [follow this guide](#).
 - If you're using double-sided tape, [follow this guide](#).

Step 8 — Slice the adhesive



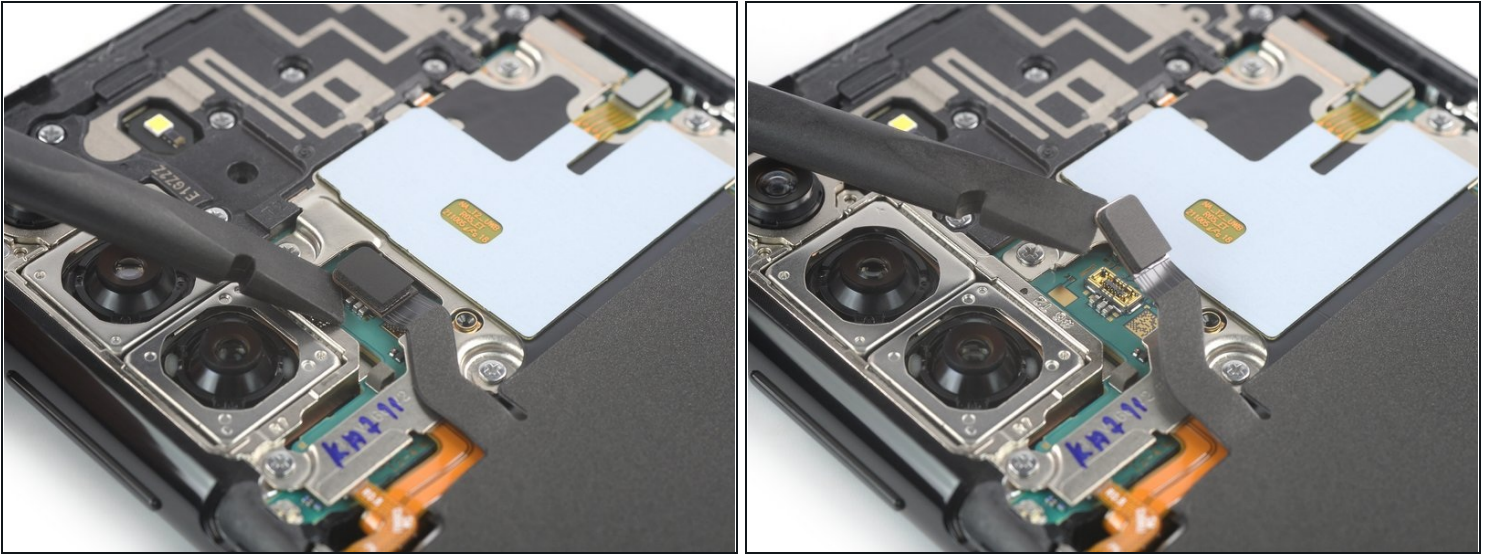
- ⚠ Take care not to puncture or bend the battery with your tool—a punctured or bent battery may leak dangerous chemicals or cause a thermal event.
- ⚠ Be careful of the cable that runs beneath the charging coil. Work slowly and stop sliding the pick if it catches on the cable.
- Insert an opening pick underneath the left bottom end of the NFC antenna and charging coil assembly.
- Carefully slide the opening pick along the bottom left edge of the assembly to separate it from the battery.

Step 9



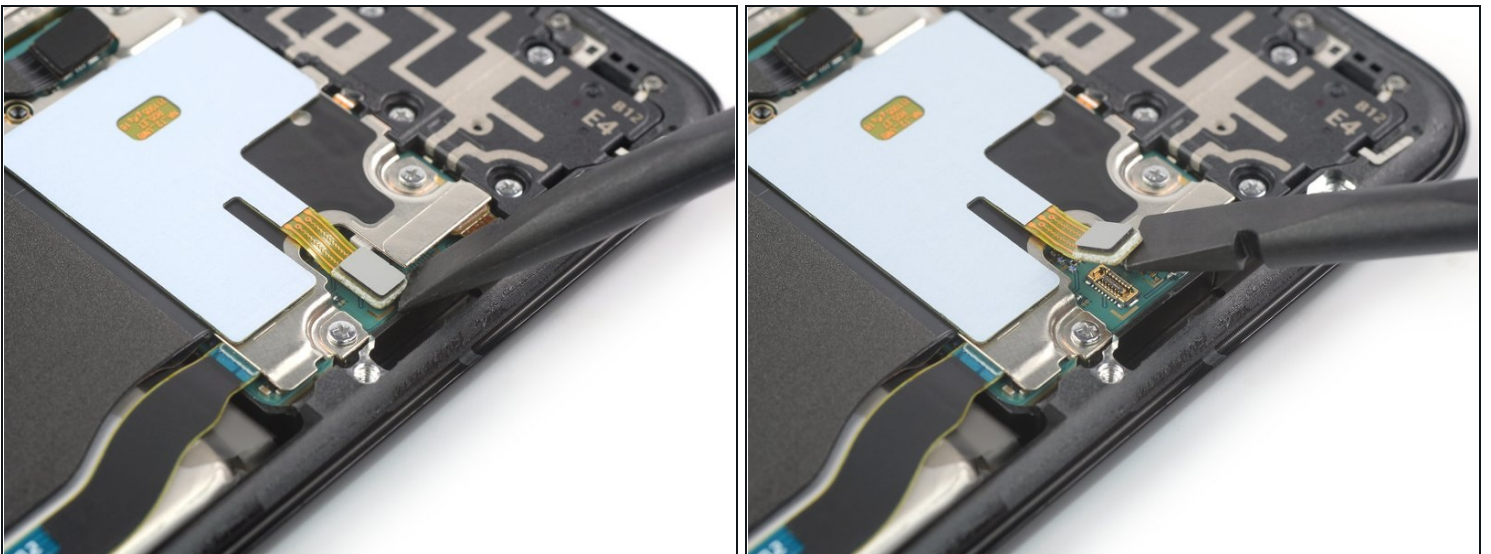
- Insert an opening pick underneath the bottom end of the NFC antenna and charging coil assembly.
- Carefully slide the opening pick along the bottom of the assembly to separate it from the loudspeaker.

Step 10 — Disconnect the charging coil



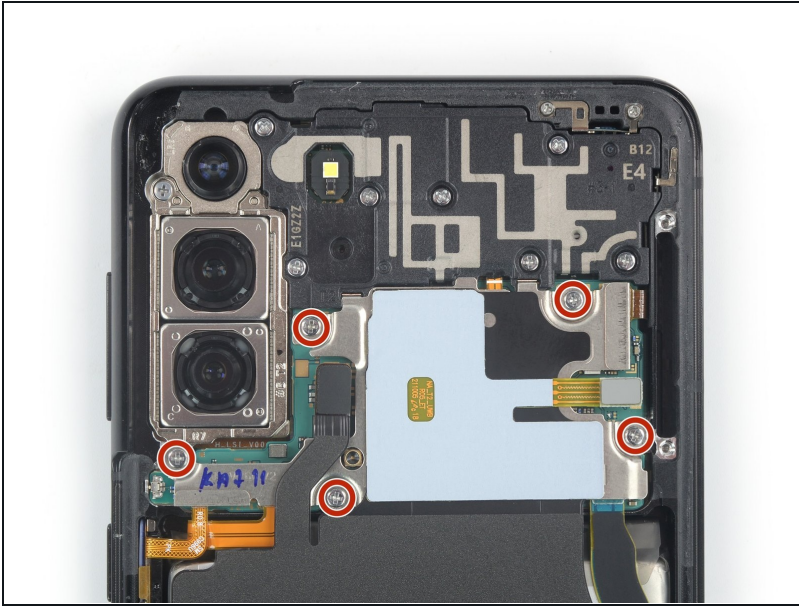
- Use a spudger to disconnect the charging coil by prying the connector straight up from its socket.

Step 11 — Disconnect the NFC antenna



- Use a spudger to disconnect the NFC antenna by prying the connector straight up from its socket.

Step 12 — Unfasten the NFC antenna & charging coil assembly screws



- Use a Phillips screwdriver to remove the five 3.9 mm-long screws securing the NFC antenna and charging coil assembly.

Step 13 — Remove the NFC antenna & charging coil assembly



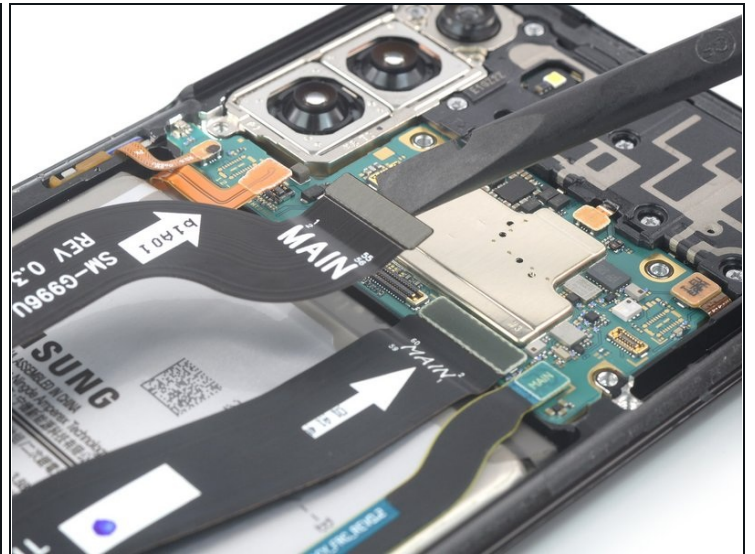
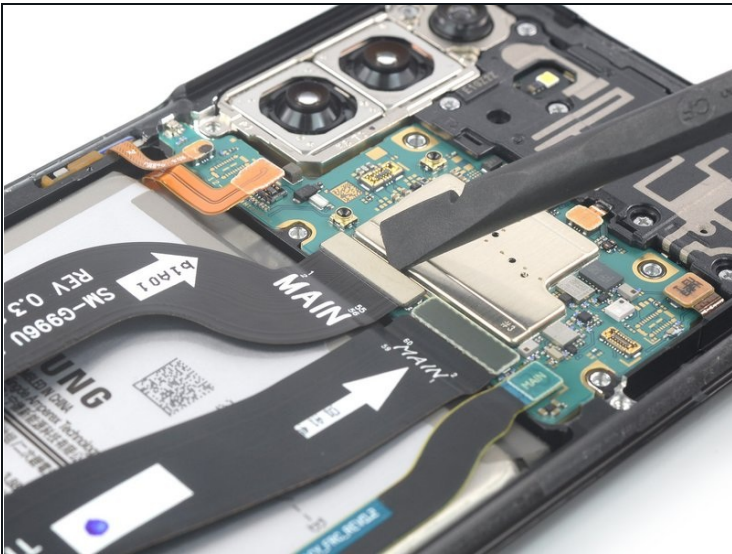
- Use a pair of [tweezers](#) or your fingers to carefully remove the NFC antenna and charging coil assembly.

Step 14 — Disconnect the battery cable



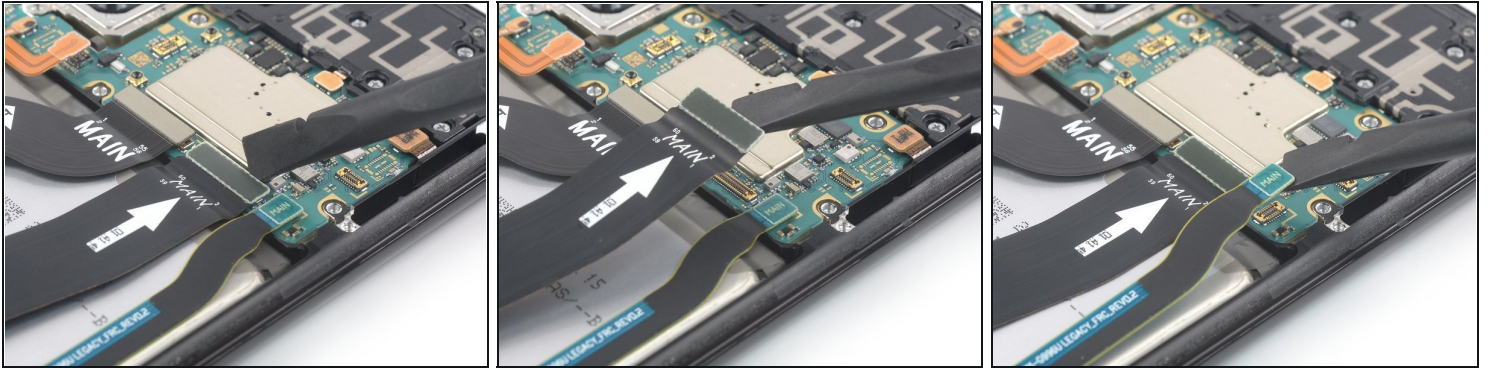
- Use a spudger to disconnect the battery cable by prying the connector straight up from its socket.

Step 15 — Disconnect the display flex cable



- Use a spudger to disconnect the display flex cable by prying its upper connector straight up from its socket.

Step 16 — Disconnect the main & interconnect flex cables



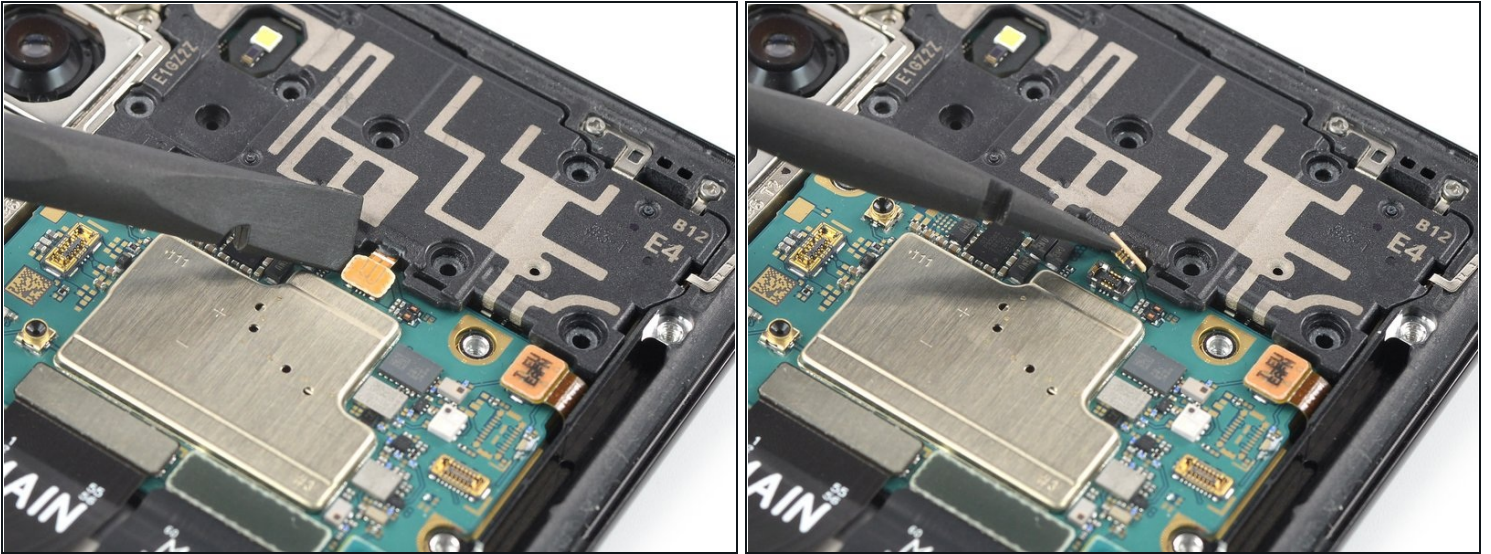
- Use a spudger to disconnect the main and interconnect flex cables from the motherboard by prying their upper connectors straight up from their sockets.

Step 17 — Unfasten the earpiece speaker assembly screws



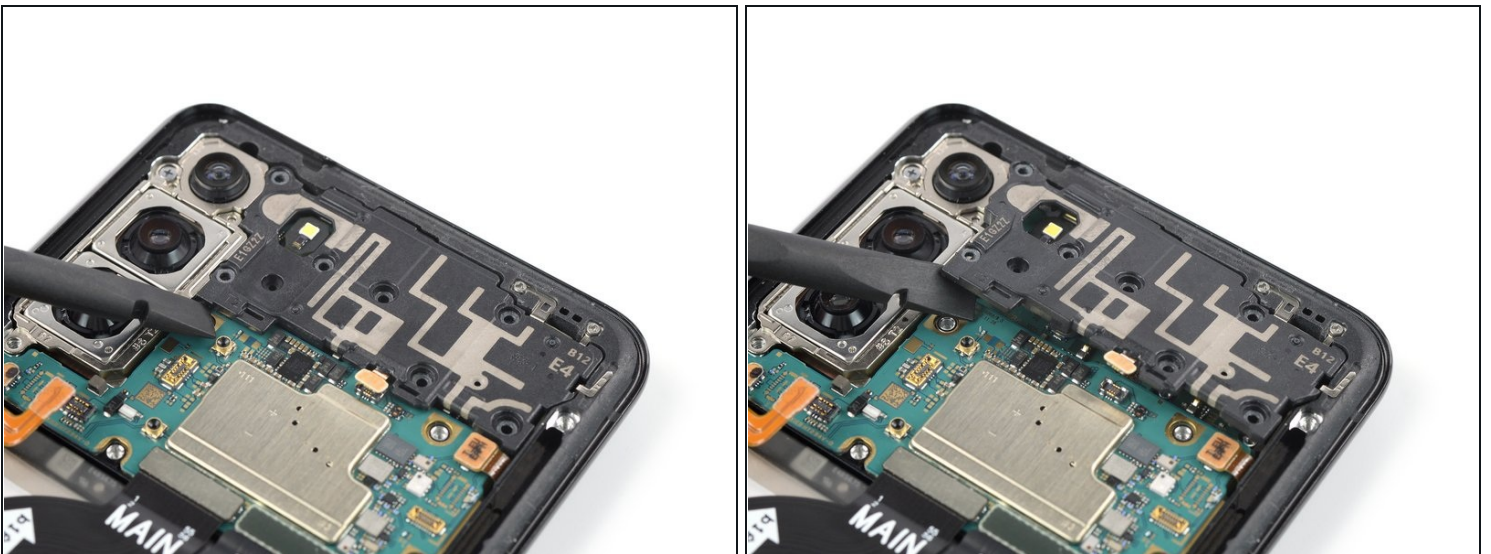
- Use a Phillips screwdriver to remove the seven 3.9 mm-long screws securing the earpiece speaker assembly.

Step 18 — Disconnect the earpiece speaker



- Use a spudger to disconnect the earpiece speaker cable by prying the connector straight up from its socket.

Step 19 — Pry up the earpiece speaker assembly



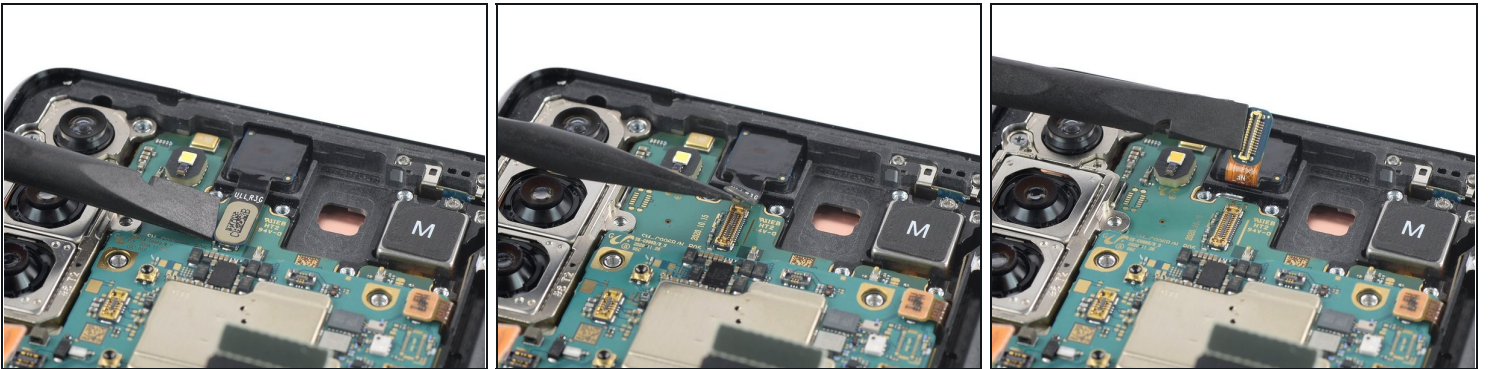
- Insert a spudger underneath the bottom left edge of the earpiece speaker assembly.
- Use your spudger to pry up the earpiece speaker assembly.

Step 20 — Remove the earpiece speaker assembly



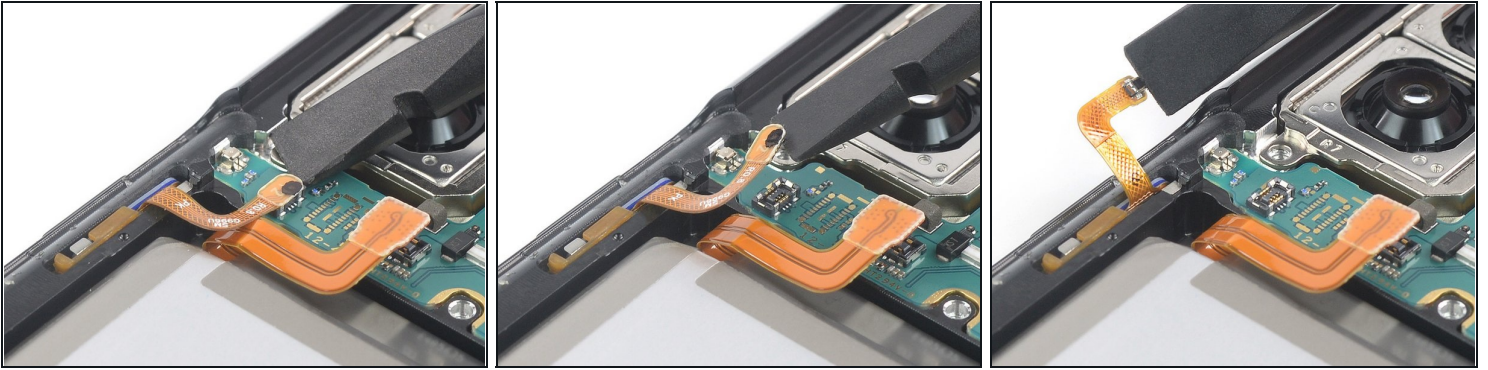
- Use a pair of [tweezers](#) or your fingers to carefully remove the earpiece speaker assembly.
- ☑ During reassembly apply new adhesive where it's necessary after cleaning the relevant areas with isopropyl alcohol (>90%).

Step 21 — Disconnect the front facing camera



- Use a spudger to disconnect the front facing camera cable by prying the connector straight up from its socket.

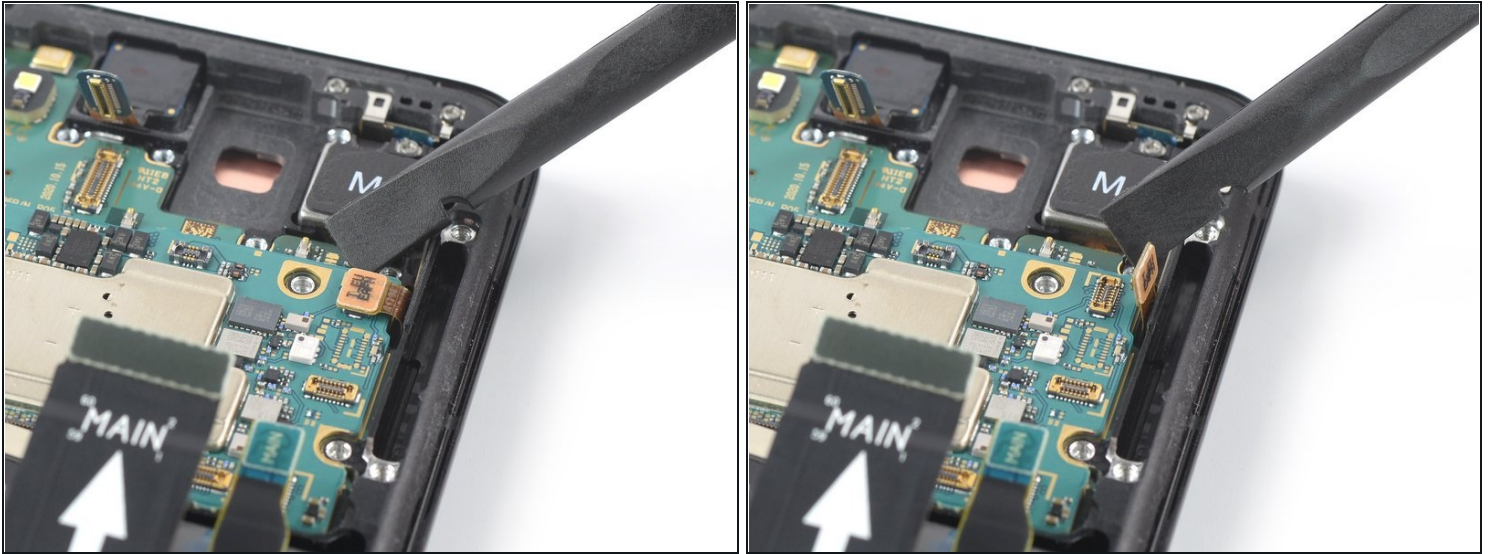
Step 22 — Disconnect the power button flex cable



⚠ During the following step do not fold the cable sharply and only bend it to avoid cable damage.

- Use a spudger to disconnect the power button flex cable by prying the connector straight up from its socket.
- Use your spudger to carefully bend the flex cable to the side to avoid damaging it during the motherboard removal.

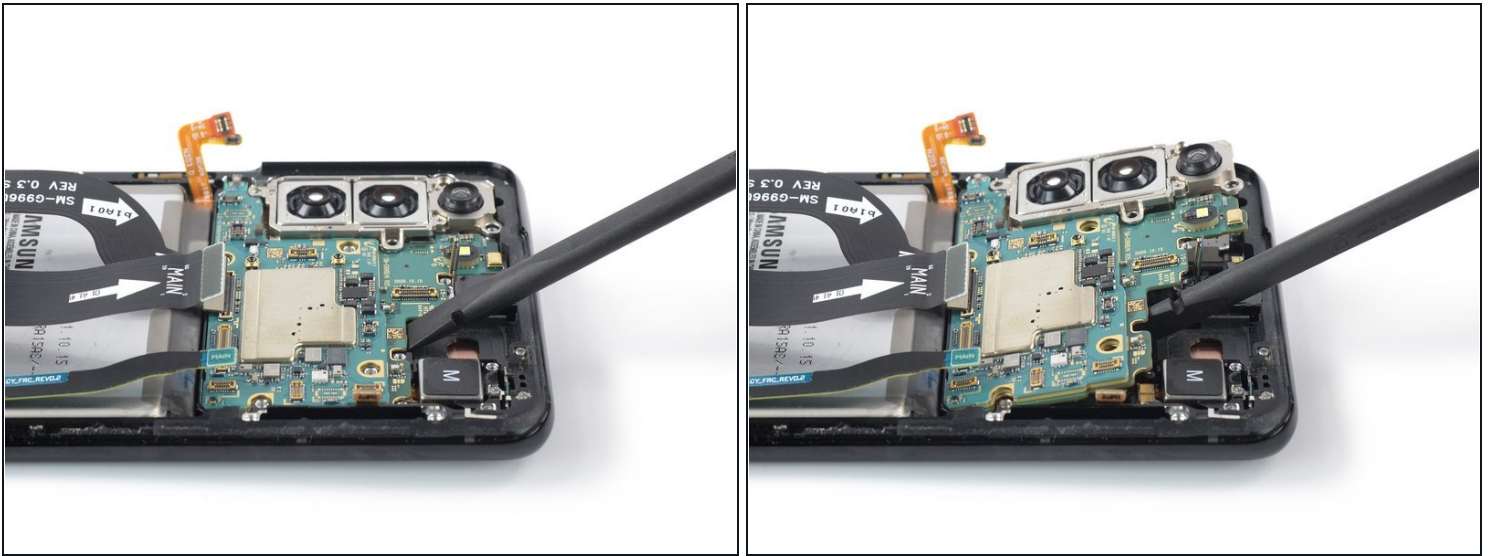
Step 23 — Disconnect the antenna flex cable



⚠ During the following step do not fold the cable sharply and only bend it to avoid cable damage.

- Use a spudger to disconnect the power antenna flex cable by prying the connector straight up from its socket.
- Use your spudger to carefully bend the flex cable to the side to avoid damaging it during the motherboard removal.

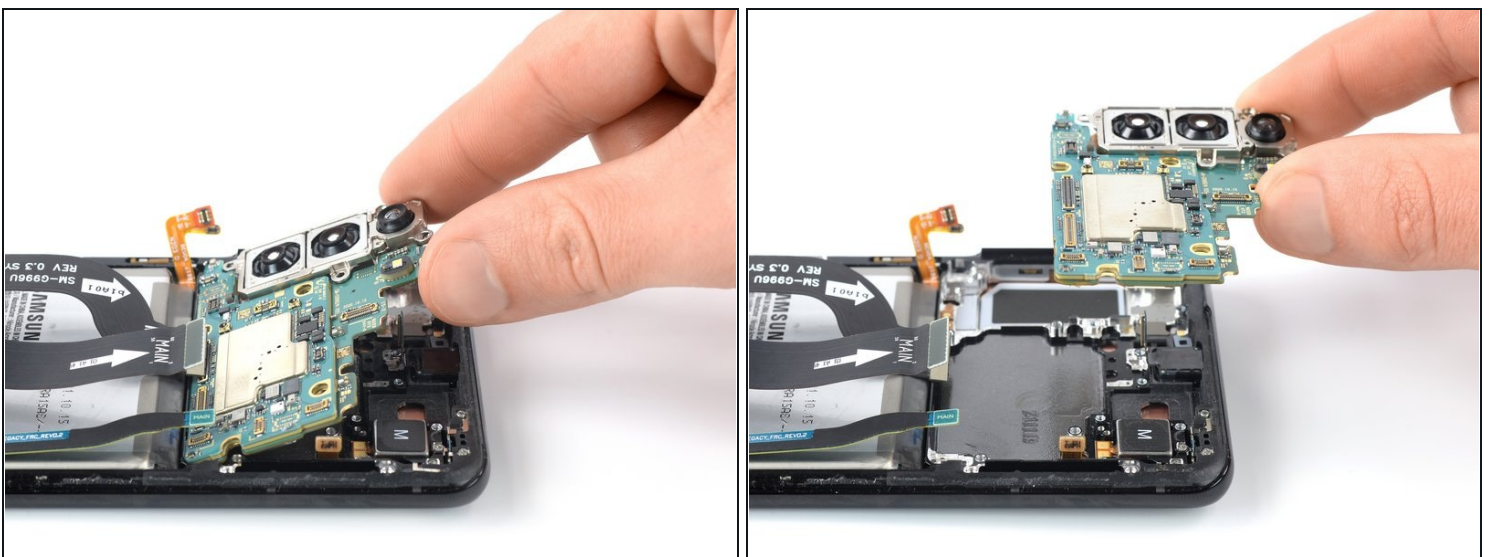
Step 24 — Pry up the motherboard assembly



⚠ Make sure no cables are tangled with the motherboard assembly during the removal procedure to avoid cable damage.

- Insert a spudger underneath the top edge of the motherboard assembly and next to the vibration motor.
- Use your spudger to pry up the motherboard assembly.

Step 25 — Remove the motherboard assembly



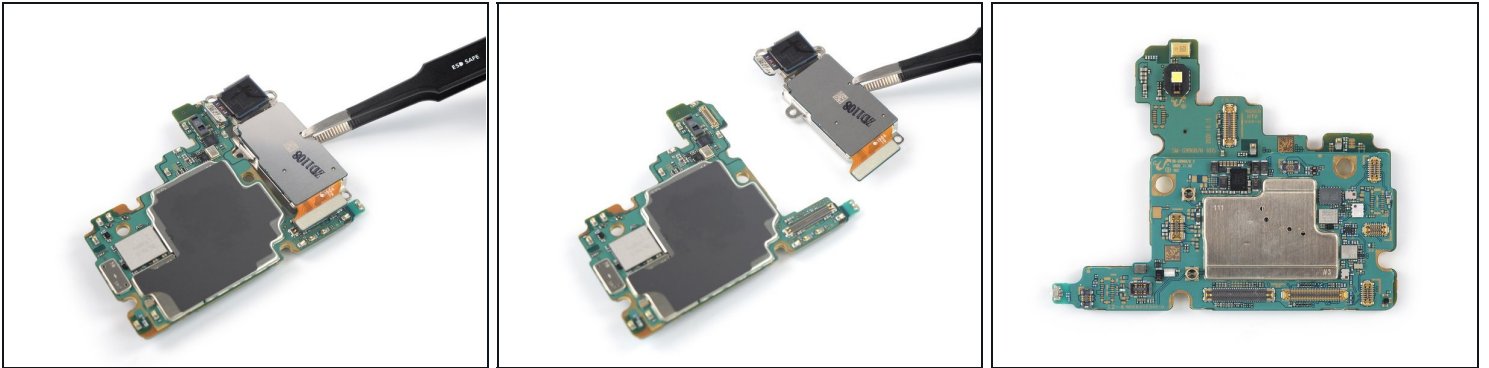
- Carefully remove the motherboard assembly including the rear cameras.

Step 26 — Disconnect the cameras



- Use a spudger to disconnect the ultra wide camera flex cable by prying its connector straight up from its socket.
- Use a spudger to disconnect the wide and tele camera assembly by prying its connector straight up from its socket.

Step 27 — Separate the camera assembly from the motherboard



- Use a pair of [tweezers](#) or your finger to carefully separate the camera assembly from the motherboard.
- ☑ During reassembly apply new adhesive where it's necessary after cleaning the relevant areas with isopropyl alcohol (>90%).

If possible, turn on your device and test your repair before installing new adhesive and resealing.

Compare your new replacement part to the original part—you may need to transfer remaining components or remove adhesive backings from the new part before installing.

To reassemble your device, follow these instructions in reverse order.

After you've completed the repair, [follow this guide](#) to test your repair.

Take your e-waste to an [R2 or e-Stewards certified recycler](#).

Repair didn't go as planned? Try some [basic troubleshooting](#), or ask our [Answers community](#) for help.